Operating instructions for an EM260 together with an EK-88

Contents

1 SAFETY INSTRUCTIONS 1

2 FEATURES 2

3 WIRING DATA INTERFACE EM260 ß à EK-88 2

4 WIRING EXTERNAL POWER SUPPLY EM260 ß à EK-88 2

5 WIRING OF EM260´S COMMUNICATION INTERFACE 2

6 CONFIGURATION OF THE EK-88 2

7 SETTING THE PARAMETERS FOR THE COMMUNICATION MODULE IN THE EM260 3

8 REPLACEMENT OF COMMUNICATION MODULES 3

9 POWER SUPPLY 3

10 OPERATING STATUS DISPLAY 3

11 JUMPER 3

12 NOTES 4

13 TECHNICAL DATA 4

1 Safety instructions

Please read these instructions carefully before assembling, installing or commissioning the EM260 to avoid any damage, dangers or problems.

Assembly and installation should be carried out by qualified personnel !

The 'AC' version of the EM260 has a power supply of 90...260 V. Do not touch any live parts as this is extremely dangerous !

Shut off the power supply before carrying out any installation work and before opening the housing !

Switch the power back on only after all of the work has been completed and the housing has been firmly closed!

2 Features

- Modem for use with ELSTER LIS-100 and LIS-200 end devices
- Internal TTL interface for one of the following communication modules:
  – Standard analogue modem
  – GSM module
  – ISDN adapter
  – Ethernet LAN adapter.
  – ELSTER-CL0 interface card
- RS232 / V.24 interface to end device (RxD, TxD, Gnd, DCD, DTR, RI), galvanically separated
- Power supply for EK2x0 and EK-88
- 5 VDC outputs for interface component of LIS100 devices, only switched on during modem connection (online status)
- EMC in accordance with standards EN55011 Class B, EN55024, EN61326 and EN12405 (standard for volume correctors)
- Operating status display: Power on (green LED), Ring and Online (yellow LED)
- Apart from mains cable, all cables are already assembled exworks (Plug & Play):
  – Data cable
  – Power supply for end device
  – Communication cable (TAE, ISDN, Ethernet, GSM antenna).

3 Wiring data interface EM260 ß à EK-88

EK88-6-pol. round socket	Colour of lead *	Direction of data	EM260 terminal
TxD	yellow	**à**	TxD
RTS	brown	**à**	DTR
RxD	green	**ß**	RxD
CTS	grey	**ß**	DCD
V +	white	**ß**	+5V
V -	pink	**ß à**	GND

* If cable **73013328** (LiYCY, 6 x 0,14, shielded) is used. This cable is assembled by Elster-Instromet exworks.

4 Wiring external power supply EM260 ß à EK-88

EK88-6-pol. round socket	Colour of lead *	Direction of data	EM260 terminal
U_v+	weiß	**ß**	+9V
U_v-	braun	**ß à**	GND
A+	gelb		n.c.
A-	grün		n.c.

* If cable **73015124** (LiYCY/TP/, 2x2x0,5, shielded) is used. This cable is assembled by Elster-Instromet exworks.

5 Wiring of EM260´s communication interface

If an analogue modem, an ISDN adapter or an Ethernet adapter is mounted inside the EM260, the corresponding cable is also connected by Elster-Instromet exworks. The cable is connected to the terminals a(Rx-), b(Rx+), a2(Tx-) und b2(Tx+).
In the case of a GSM modem a suitable GSM antenna is connected directly to the GSM module.

6 Configuration of the EK-88

No special configuration necessary for connecting EK-88 with EM260.

7 Setting the parameters for the communication module in the EM260

The parameters for the communication module (Modem) in the EM260 are set exworks and are programmed for use with an EK-88.
In the event of any changes having to be made to the parameters on site, for whatever reason, the changes can be carried out with the help of the software 'ModemIni' (Ident. No. 73017249). The PC with the ModemIni software is connected to the EM260 via the Modem-Programming-Adapter 73018295. For this purpose, the 10-pin strip ST7 to the left of the communication module is used.

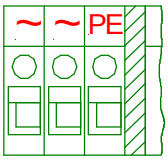
8 Replacement of communication modules

A faulty communication module can be substituted by another communication module of the same type by the customer on site. The new module must be parameterised for use with EK-88 by Elster-Instromet exworks.
The replacement of a communication module by another communication module of a different type (e.g. analogue modem replaced by ISDN adapter) can only be carried out by Elster-Instromet exworks or by Elster-Instromet´s customer service.

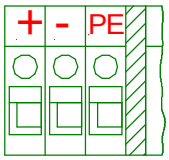
9 Power supply

The voltage required for power supply is marked on the nameplate (90...260 VAC / 18...30 VDC).
The three left screwing terminals are connected as follows:

90...260 VAC version:



18...30 VDC version:



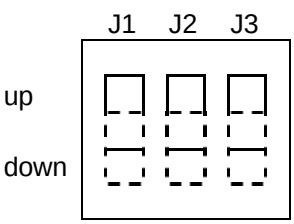
10 Operating status display

Green LED: Power on
Yellow LED: Ring / Online / GSM status: depending on which communication module (Modem) is integrated, yellow Online-LED has the following meanings:

Analogue Modem / ISDN / Ethernet	
LED status	**Meaning**
off	no connection
flashing briefly	ringing signal
on	online / data transfer

GSM Modem	
LED status	**Meaning**
off	no GSM network
flashing slowly (0.45 Hz , ca. 2s on, 200ms off)	registered in GSM network
flashing quickly (1.25 Hz, ca. 600ms on, 200ms off)	establishing a connection
on	online / data transfer

11 Jumper



J1	J2	J3	
up	up	up	Analogue Modem / ISDN / Ethernet
up	down	up	GSM Modem
down	up	up	Setting parameters for analogue modem / ISDN / Ethernet
down	down	up	Setting parameters for GSM Modem
any		down	Reserved

12 Notes

1. **When using a GSM modem, switch off the power on the EM260 before inserting or removing the SIM card!!!**
2. **The PIN must be deactivated on the SIM card!!! (e.g. by using the security settings menu of a GSM mobile)**
3. In the GSM modem, the SIM eject button is next to the SIM insert carriage on the right!
4. **The PE connections in both the EM260 and the EK260 should be as short as possible and have as wide a cross-section as possible.**
5. When assembling the front cover, ensure that the flat-strip cable for connecting the LEDs integrated into the front transparent film is plugged into the 4x1 pin strip ST8!

13 Technical Data

- Internal communication module (only one of them is integrated into the EM260):
  – Standard analogue modem: V.32bis (14.4 kbps)
  – GSM module: Dual-Band 900/1800 MHz
  – ISDN adapter: V.110, V.120, X.75, PPP, HDLC
  – Ethernet-LAN adapter: 10base-T, 10Mbit/s.
  – Current loop (CL) interface (not with EK-88)
- RS232 / V.24 interface to the end device (RxD, TxD, Gnd, DCD, DTR, RI), galvanically separated, screw terminals for leads with cross section 0.5...1.5 mm^2
- Power supply for EK2x0 and EK-88: output 8.5 VDC +/-5% / 50 mA, galvanically separated, screw terminals for leads with cross section 0.5...1.5 mm^2
- 5 VDC outputs for interface component of LIS100 devices, only switched on during modem connection (online status), screw terminal for lead with cross section 0.5...1.5 mm^2
- Power supply:
  – 90...260 VAC, L, N, PE
  – 18...30 VDC, +, -, PE
  – screw terminal for lead with cross section 0.5...1.5 mm^2
- Synthetic housing (standard ABS) with metallised surface inside, IP65 in accordance with EN60529, EMV cable fitting for shielded cable, otherwise synthetic cable fittings
- Ambient temperature:
  - with analogue modem 'INSYS i-module-Modem': 0 ... + 50 °C
  - with ISDN adapter 'TA+HUX': 0 ... + 50 °C
  - with GSM modem 'Wavecom-Integra': -10 ...+ 60 °C
  - with RS-232 plate: -10 ...+ 60 °C
  - with CL interface (CL0, passive): -10 ...+ 60 °C
  - with Ethernet card: 0 ...+ 50 °C
- Ambient humidity: max. 93%, non condensating
- **Declaration of EU conformity** in accordance with the current version of the EMC-Directive 89/336/EEC:
  The product 'EM260' conforms to the current versions of the following standards:

Emission	EN 55011 Class B (for domestic and commercial applications)
Immunity	EN 61326 (Electrical equipment for measurement, control and laboratory use) EN 12405 (Volume correctors) EN 55024 (IT equipment, data transmission devices)